

Abstract

A probe deflection device includes an outer tube and an inner tube. The outer tube is fabricated from an magnetic resonance (MR) compatible material. The inner tube is fabricated from a resilient material having a memory. The inner tube is shaped prior to insertion into the outer tube. To use the probe deflection device, the distal end of the outer tube is located in a biological subject near a target area. The shaped inner tube is inserted into the outer tube and extends into the target area. The shaped inner tube allows the inner tube to extend into a target area in the biological subject that is off-axis from the outer tube. A probe is inserted into the inner tube. The inner tube and the outer tube are removed from the biological subject leaving the probe embedded in the target area. Alternatively, the outer tube includes an controllable closure having an off-axis exit hole. The inner tube enters the biological subject through the off axis exit hole. A probe is inserted into the inner tube. The closure is set to the open position, which creates a slot that enhances the exit hole. The inner tube is retracted into the outer tube without deflecting the probe. The closure is set to the closed position and the outer tube is removed from the biological subject leaving the embedded probe.